

IN THE CLAIMS

Please cancel claims 1-32 and add the following new claims:

33. (New) A method of manipulation and management of the motion and currents of a liquid cryogen utilized in the freezing or solidifying of individually small volumes of a liquid or units, characterized by
transporting liquid cryogen from a reservoir in a first direction upwardly from the reservoir to a transition point where the direction of flow of the cryogen changes to a second direction;
managing the speed of travel and volume of cryogen at it travels from the transition point to reduce gasification of the cryogen and any back eddies created in the flow of said cryogen caused by said change of direction;
introducing a liquid to be frozen by said cryogen while said cryogen is traveling in said second direction, said liquid being introduced via an orifice at a distance remote from the cryogen, such that the small volumes of said liquid form into frozen units.
34. (New) The method according to claim 33 wherein said units of said liquid are frozen in a desired shape.
35. (New) The method according to claim 34 wherein the shape of said frozen units of liquid is a "Popcorn" structure.
36. (New) The method according to claim 33 wherein there is a means for reducing the internal currents of the cryogen traveling in said second direction positioned prior to the introduction of the liquid to be frozen.
37. (New) The method according to claim 36 wherein the means for reducing the internal currents is a screen.

38. (New) The method according to claim 36 wherein the means for reducing the internal currents is one or more baffles.

39. (New) The method according to claim 36 wherein the means for reducing the internal currents is one or more dams.

40. (New) The method according to claim 33 wherein said first direction is a generally vertical direction.

41. (New) The method according to claim 33 wherein said second direction is generally a horizontal direction.

42. (New) The method according to claim 33 wherein the cryogen travels down a slope while traveling in generally said second direction

43. (New) The method according to claim 33 wherein said cryogen travels along at least one raceway when traveling in said second direction.

44. (New) The method according to claim 43 wherein said raceway is sloped.

45. (New) The method according to claim 44 wherein the raceway is a spiral raceway.

46. (New) The method according to claim 43 wherein said first raceway feeds said cryogen into a second raceway running in a substantially different direction from said first and second directions.

47. (New) A method of claim 33, wherein the cryogen has sufficient forward motion, such that units formed in said cryogen are moved away from where said liquid is introduced to said cryogen so as not to contact subsequently formed units formed from said liquid.

48. (New) A method of claim 33, wherein the forward motion of the cryogen is utilized to move the gasification of said cryogen remotely from the introduction point of said liquid into said cryogen.

49. (New) A method of claim 33, wherein the forward movement of the cryogen is utilized to move the cavitations caused by gasification of the cryogen away from the introduction point of said liquid into said cryogen.

50. (New) A method in claim 33, wherein the cryogenic liquid moves in a mono-directional manner as it passes the introduction point of said liquid.

51. (New) A method of claim 50, wherein the introduction point is of sufficient distance from the transition point that the cryogen is moving in substantially a horizontal direction.

52. (New) A method in claim 33, where the internal currents, within said cryogen are multidirectional in nature prior to the introduction of said liquid.

53. (New) A method of claim 52, whereby the currents at the point of introducing said liquid minimize gaseous encapsulation of the solidifying units.

54. (New) A method of claim 53, where the currents in the cryogen are allowed to function at full force.

55. (New) A method of claim 33, wherein a small volume of liquid is sufficiently liquid that it can be dripped or pumped through a small orifice into said cryogen.

56. (New) A method of claim 55, where said small volume of liquid contains a percentage of solids.

57. (New) A method of claim 43, where the raceway has one or more channels to reduce horizontal contact between frozen units that are traveling down the raceway.
58. (New) A method in claim 43, where the slope of the raceway controls the forward movement of the cryogen.
59. (New) A method of claim 43, where the length of the raceway controls the retention time of the unit in the cryogen.
60. (New) A method of claim 36, where the means for reducing the internal currents of the cryogen traveling in said second direction prior to the introduction of the liquid to be frozen controls the depth of the cryogen.
61. (New) A method of claim 36, where the means for reducing the internal currents of the cryogen traveling in said second direction prior to the introduction of the liquid to be frozen controls the forward motion of the cryogen.
62. (New) A method according to claim 33, wherein the manipulation and management of the motion and currents of a liquid cryogen removes the gasification of the cryogen away from the introduction point of the liquid into the cryogen.
63. (New) A method according to claim 62, wherein the gasification of the cryogen away from the introduction point of the liquid into the cryogen enhances the internal currents in the cryogen.
64. (New) A method according to claim 33, where the manipulation and management of the motion and currents of a cryogen assist in dispersing the heat transferred from the units formed from the liquid to the cryogen.
65. (New) A method according to claim 64, wherein the heat transferred between the unit and the cryogen is enhanced by limiting the gaseous encapsulation.

66. (New) A method according to claim 65, where the dispersion of the heat transferred reduces the gasification of cryogen at the interface between thermally dissimilar bodies.
67. (New) A method according to claim 66, where gasification occurs in the cryogen instead of in the liquid introduced into the cryogen.
68. (New) A method according to claim 33, wherein the structure, shape, agglomeration and sizing of the individual units formed from the liquid introduced into the cryogen can be predetermined and controlled by the manipulation and management of the cryogen.
69. (New) A method according to claim 33, wherein the cryogenic liquid is recycled via a recycling system.
70. (New) A method according to claim 33, wherein the liquid cryogen is transported from said reservoir to said transition point by means of one or more augers.
71. (New) A method according to claim 43, where the cryogenic liquid is transported by two or more augers from the reservoir to the beginning of the raceway.
72. (New) A method in claim 71, where the utilization of two or more augers increases the internal currents in the cryogen.
73. (New) The method according to claim 69, wherein the recycling system has an impeller.
74. (New) The method according to claim 73, wherein the impeller type system provides a plurality of internal currents in the body of the cryogen.

75. (New) The method according to claim 69, wherein the recycling system decreases internal currents being produced in said cryogen.

76. (New) A method of manipulation and management of the motion and currents of a liquid cryogen utilized in the freezing or solidifying of individually small volumes of a liquid or units, characterized by
transporting the liquid cryogen from a reservoir in a first direction to a transition point by means of two or more augers,
changing the direction of travel of the cryogen at said transition point to a second direction of travel;
managing the speed of travel and volume of cryogen from the transition point by the use of a means for reducing the internal currents of the cryogen to reduce gasification of the cryogen and any back eddies created in the flow of said cryogen caused by said change of direction;
introducing a liquid to be frozen by said cryogen while said cryogen is traveling in said second direction and after said cryogen has passed said means for reducing, said liquid being introduced via an orifice at a distance remote from the cryogen, such that the small volumes of said liquid form into frozen units.